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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,156

01/19/2006

Kazumichi Machida

050753

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23850 7590 04/02/2009
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EXAMINER

PATEL, PARESH H

ART UNIT

PAPER NUMBER

2829

MAIL DATE

DELIVERY MODE

04/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,156	MACHIDA ET AL.	
	Examiner	Art Unit	
	Paresh Patel	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/11/2009 has been entered.

Claim Objections

2. Claims 1-2 is objected to because of the following informalities: "deformed in a direction almost perpendicular" as recited in the claims requires some event to occur e.g. contacts to the electrode. This event feature is missing. However, to expedite the process of the prosecution, it is assumed that above event occurs during the contact between the tip end and the electrode. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (US 6710608).

Regarding claim 1, as best understood by the Examiner, Yoshida et al. (hereafter Yoshida) in **fig. 35-37** discloses a probe (**see fig. 37 or 1F**) comprising:

FIG. 35

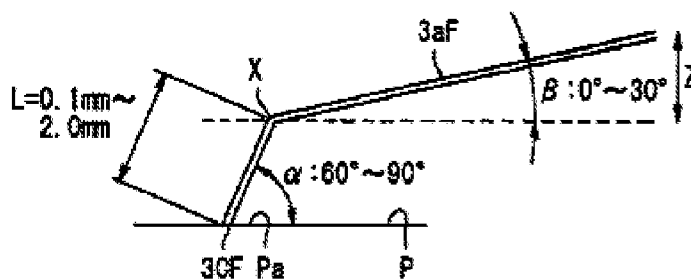
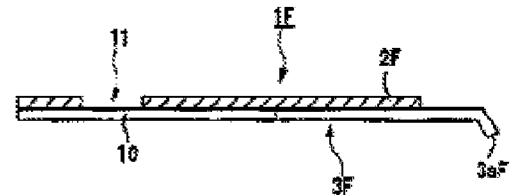


FIG. 37



an almost rectilinear contact part [**wiring pattern 3F and element 2F of probe 1F**]; and

a base end [**portion 10 of 1F**] continued to the contact part,

characterized in that said contact part comprises;

a base part [**3F and 3aF**] being formed of a first material having a first thermal expansion coefficient and including a tip end [**3aF**], the tip end being, adapted to contact an electrode of an object to be measured almost perpendicularly and scrub the electrode [**see fig. 35**], and

an almost rectilinear junction part [**2F**] which is formed of a second material [**resin film 2F**] having a second thermal expansion coefficient different [**different**

because of resin of 2F and conductor of 3F] from that of the first material and provided integrally and longitudinally along a widthwise end **[see fig. 37]** of the base part exclusive of the tip end,

and in that said contact part is deformed in a direction **almost** perpendicular to the longitudinal direction of said base part due to respective thermal expansion of said base part and said junction part **[portion of L bends almost perpendicular when it contacts the P with $\alpha = 90^\circ$]**.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (US 6710608) and further in view of Maruyama et al. (US 6791345), Flechsig et al. (US 7176703) or Ding et al. (US 6477147).

Regarding claim 2, as best understood by the examiner, Yoshida et al. (hereafter Yoshida) discloses **all the elements** of a probe **[see section 4 above]** comprising:

an almost rectilinear contact part; and

a base end continued to the contact part,

characterized in that said contact part comprises:

a base part being formed of an elastic material and including a tip end, the tip end being adapted to contact an electrode of an object to be measured almost perpendicularly and scrub the electrode, and

a junction part which is integrally provided at a widthwise end of said base part exclusive of the tip end,

and in that said contact part is deformed in a direction almost perpendicular to the longitudinal direction of said base part due to deformation of said junction part.

Yoshida discloses resin film for said junction part. Yoshida does not disclose said junction part is formed of **a shape memory alloy**. Use of **a shape memory alloy** is known in the art. Maruyama et al. in fig. 19B discloses a probe with **a shape memory alloy** [*In the example shown in FIG. 19B, the contact electrode itself is formed of a bimetal so that the LSI-side contact electrode part 6a is deformed by heating or cooling, which presses an end of the LSI-side contact electrode part 6a against the electrode terminal 2a of the LSI while performing a wiping operation. When a bimetal is used, since the deformation of the bimetal is reversible, a contact pressure generated by heating the bimetal can be cancelled by cooling. In order to perform such alternate heating and cooling, it is preferable to provide an electronic cooling element such as a Peltier element to the contactor substrate 8.*] Also see fig. 10B of Flechsig et al. and Fig. 3 of Ding et al. for shape memory alloy Ni and Ti]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace resin film of Yoshida with known shape memory alloy, in order to obtain advantages that Maruyama or Flechsig et al. or Ding et al. has to offer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 571-272-1968. The examiner can normally be reached on 8:00 to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paresh Patel/
Primary Examiner, Art Unit 2829

March 27, 2009